



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| | | | | |
|--|---------------|----------------------|---------------------|------------------|
| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/581,983 | 06/07/2006 | Pietro Baita | FE 6150 (US) | 7220 |
| 34872 | 7590 | 09/12/2008 | EXAMINER | |
| Basell USA Inc. Delaware Corporate Center II 2 Righter Parkway, Suite #300 Wilmington, DE 19803 | | | LU, C CAIXIA | |
| ART UNIT | PAPER NUMBER | | | |
| | | | 1796 | |
| MAIL DATE | DELIVERY MODE | | | |
| | | | 09/12/2008 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|--------------------------------------|-------------------------------------|
| Office Action Summary | Application No. 10/581,983 | Applicant(s) BAITA ET AL. |
| | Examiner Caixia Lu | Art Unit 1796 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12 June 2008.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-4 and 6-14 is/are rejected.
- 7) Claim(s) 5 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1448)
 Paper No(s)/Mail Date 6-12-08
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-4 and 6-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiba (JP 63075009 A) in view of Korvenoja et al. (US 5,204,303).

Chiba teaches conducting gas phase ethylene polymerization in two stages, wherein a low molecular weight ethylene polymer is prepared in the first stage in the presence of a internal electron donor polysiloxane containing Ziegler catalyst and molecular weight modifier of hydrogen, after the ethylene polymer from the first stage polymerization is mixed with a glycol ether, a second stage ethylene polymerization is then conducted to provide a high molecular weight ethylene polymer (pages 8-11 and Example 1 of pages 16-18). Based on the molecular weight distribution (Mw/Mn) ranging from 12 to 26 listed in the Table of pages 21 and 22, one would have expected the corresponding MIF/MIP to be in the range of the instant claims.

It is noted that Chiba does not expressly teach (i) using a comonomer in the second stage, and (ii) internal electron donors besides polysiloxane. However, those limitations are considered conventional in the art. For example, Korvenoja discloses a Ziegler catalyst with various internal electron donors including ester and THF (col. 4, lines 26-36) for producing ethylene homopolymers or copolymers with enhanced regularities and desired densities.

Thus, it would have been obvious to a skilled artisan at the time the invention was made to employ the internal electron donor disclosed in Korvenoja to Chiba's ethylene polymerization process to conduct the multistage ethylene polymerization with increased catalytic activity and steric selectivity and improved mechanical properties of the ethylene polymers and in the absence of any showing criticality and unexpected results.

Allowable Subject Matter

3. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As correctly indicated by Applicants in the Remarks, Chiba only teaches the use of a glycol external electron donor and expressly teaches away any other fresh external electron donors such as those disclosed in claim 5.

Response to Arguments

4. Applicant's arguments and Amendments filed June 12, 2008 have been fully considered and the examiner has modified the rejection accordingly and the followings are the response toward those arguments which are still relevant to current rejections.

Applicants argue that Korvenoja teaches away from the present claims because Korvenoja discloses the procatalyst is useful for the preparation of ethylene having a narrow molecular weight distribution, whereas, the ethylene polymers described in the claimed process have a broad molecular weight distribution. The broad molecular weight distributions of Chiba's ethylene polymer compositions are due to the low and

high molecular weight fractions of ethylene polymers prepared in the first and second stage respectively. No matter how narrow is the molecular weight distribution for each of the two fractions, the molecular weight distribution for the bimodal ethylene polymer composition blend will always be broad. That is, when Korvenoja's catalyst composition is used in Chiba's ethylene polymerization process, an ethylene polymer with bimodal molecular weight distribution will be produced and the ethylene polymers with bimodal molecular weight distributions are always expected to have broad molecular distribution.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached on 9:00 a.m. to 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Caixia Lu/
Caixia Lu
Primary Examiner
Art Unit 1796